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WABASH RIVER BANK MITIGATION
WORK PLAN
FORMER WESTERN TAR FACILITY
TERRE HAUTE, INDIANA

Submitted to: **ENVIRONMENTAL PROTECTION AGENCY-REGION 5**
Ms. Verneta Simon, Project Manager
Chicago, Illinois

Submitted by: **KERAMIDA, INC.**
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1.0 INTRODUCTION

KERAMIDA, Inc. (KERAMIDA) was contracted by Joe Card, President and Owner of CAVU-OPS., Inc. (Client) to investigate an anomalously reported presence of coal tar materials on the bank of the Wabash River in Terre Haute Indiana adjacent to CAVU-OPS property. Subsequent conversations between EPA Region 5 representatives, Jeff Crawley and Verneta Simon, and KERAMIDA, indicated that Jeff Crawley had responded to the anomalous report and confirmed apparent coal tar impacts along the Wabash River Bank. Verneta Simon directed KERAMIDA to collect water samples from the Wabash River both upstream and downstream (see attached Figure 1) from the apparently impacted section of the riverbank and additionally collect soil/material samples of the impacted areas. Further direction was given to analyze the samples for Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), and Polychlorinated Biphenyls (PCBs). On Monday July 13, 2009 KERAMIDA mobilized to the section of riverbank in question to assess the reported impacts, mitigate any current potential impacts to the Wabash River, and collect river water and soil/material samples. Access to the riverbank was gained via a boat on the Wabash River. River water samples and soil/material samples were collected. Coal Tar material was observed intermittently along an approximate 400 foot section of the river bank. In one location the material was in contact with the river. This material was moved with the use of a hand shovel to another accumulation of impacted material, so currently the material is not in contact with the river. Measurements and photographs of the coal tar material occurrences were taken in order to generate this workplan to mitigate the impacts.

2.0 STATEMENT OF PURPOSE

This remediation step is based on discussions between KERAMIDA and CAVU-OPs, as well as previous discussions between KERAMIDA and Verneta Simon, EPA Region 5 Project Manager. The purpose of this remediation is to remove any potential impacts to the Wabash River from the river bank adjacent to CAVU-OPs (Former Western Tar) property. This remediation has two distinct phases; 1) removal of primarily surficial impacts occurring from the river's edge to an approximate elevation of twenty feet above the river's edge, and 2) removal of over burden and underlying layer of visually impacted material (approximately 4 feet in thickness). The four foot layer appears to be the source of the surficial impacts at lower elevations. The goal of the remediation is to remove present and future potential impacts to the Wabash River.

3.0 COMPOUNDS OF POTENTIAL CONCERN

The compounds of potential concern (COPCs) based on knowledge of the material present are Benzene, Naphthalene, and Cresols.

4.0 WORK PLAN

The procedures that will be used to remediate potential impacts are discussed in the following sections.

4.1 HEALTH AND SAFETY PLAN

Site-specific health and safety plan (HASP) will be prepared for the project. The HASP will have specific information regarding Coal Tar Materials and work around heavy equipment.

4.2 EXCAVATION and SURFICIAL CLEAN UP

To minimize potential safety concerns and impacts to the Wabash River, this project will utilize a long reach excavator set on the topside of the riverbank, on flat stable ground. Prior to any work, silt fence will be installed along the riverbank (see Figure 2) to protect against any material

inadvertently rolling into the river during the remediation. The excavator will be used to lower a skid steerer to the river bank to assist laborers with shovels to clean up the surficial impacts. The questionable material will be placed into the excavator's bucket and raised and placed directly into a truck that will subsequently transport it to the appropriate waste disposal facility. After the surficial material is removed, the skid steerer will be removed from the riverbank in the same fashion that it was placed.

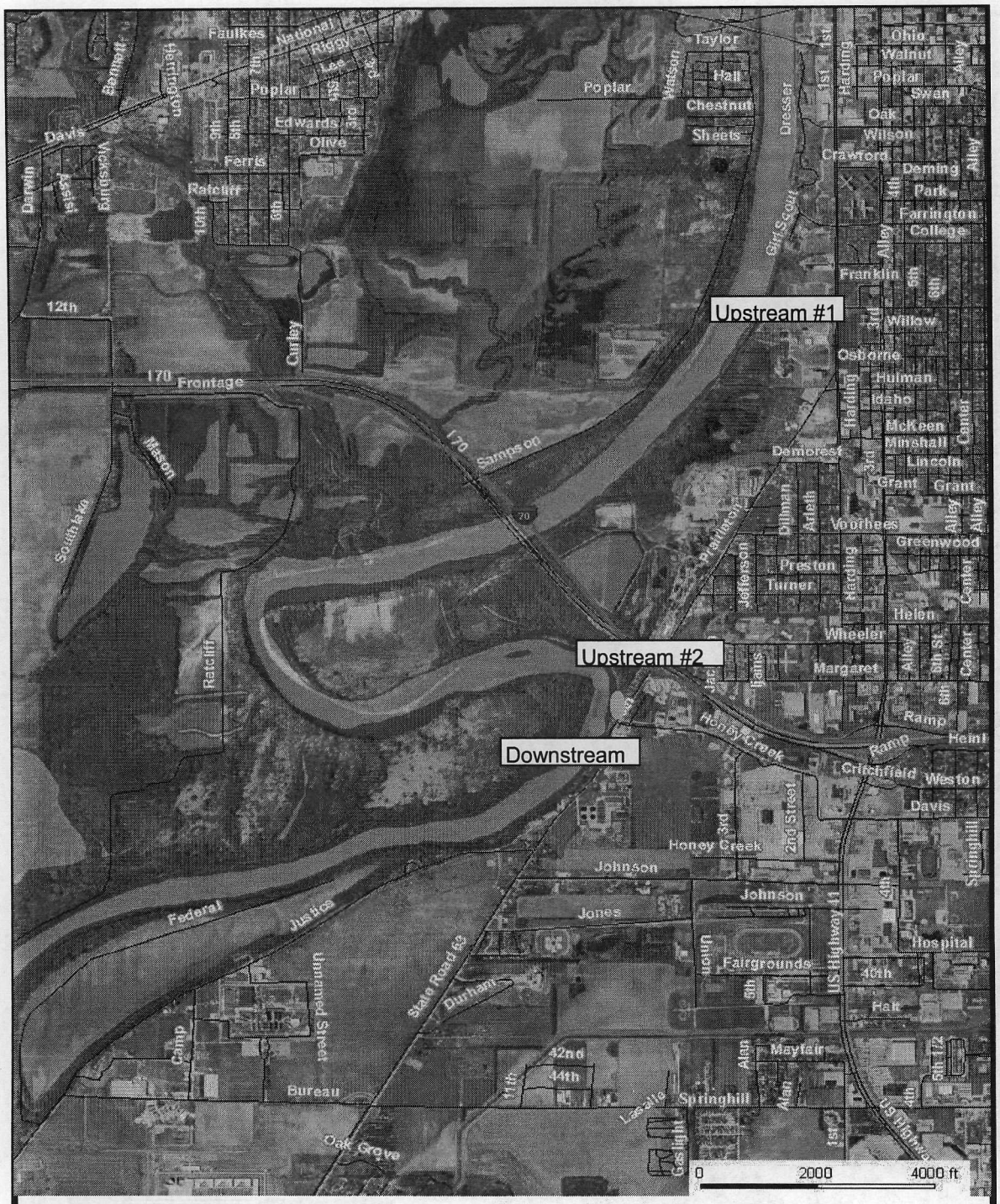
Utilizing a field spotter on the riverbank, the excavator will begin removing the overburden (soil and vegetation) directly above the approximate four foot thickness of the impacted material. After the over burden is removed and placed in a location for potential re-use, the excavator will begin to remove the impacted material and direct load it into the same trucks mentioned above. The excavator will remove impacts until they are no longer visually impacted or a distance of 25 feet east of the start of the removal, whichever is less. If visual impacts are still present at the 25 foot distance, then a physical barrier will be emplaced next to the remaining visibly impacted thickness. Backfill will then be placed in the area in a manner to prohibit any potential migration of the material. In this event, further evaluation will take place concerning this material following the end of the project. Additionally any backfill necessary to ensure slope stability at the twenty foot elevation and above will be installed.

4.3 CONFIRMATION SAMPLE COLLECTION

Confirmation soil samples will be collected in areas along the bank that formerly contained more than 6 square feet of visually impacted material. It is expected that approximately 5 samples will be colected and analyzed for VOCs and SVOCs that contain the COPCs listed in Section 3.0.

5.0 REPORTING

Documentation of this remediation, volume of material removed, confirmation sampling, photo documentation and waste disposal activities completed at the Site will be included in a final Remediation Report. The report will include the laboratory reports and waste disposal documentation.



Photograph from 2005.

- Location of River Water Samples
- Location of Section of River Bank with Visual Impacts

Figure 1
Site Location Map
Indicating Location of River

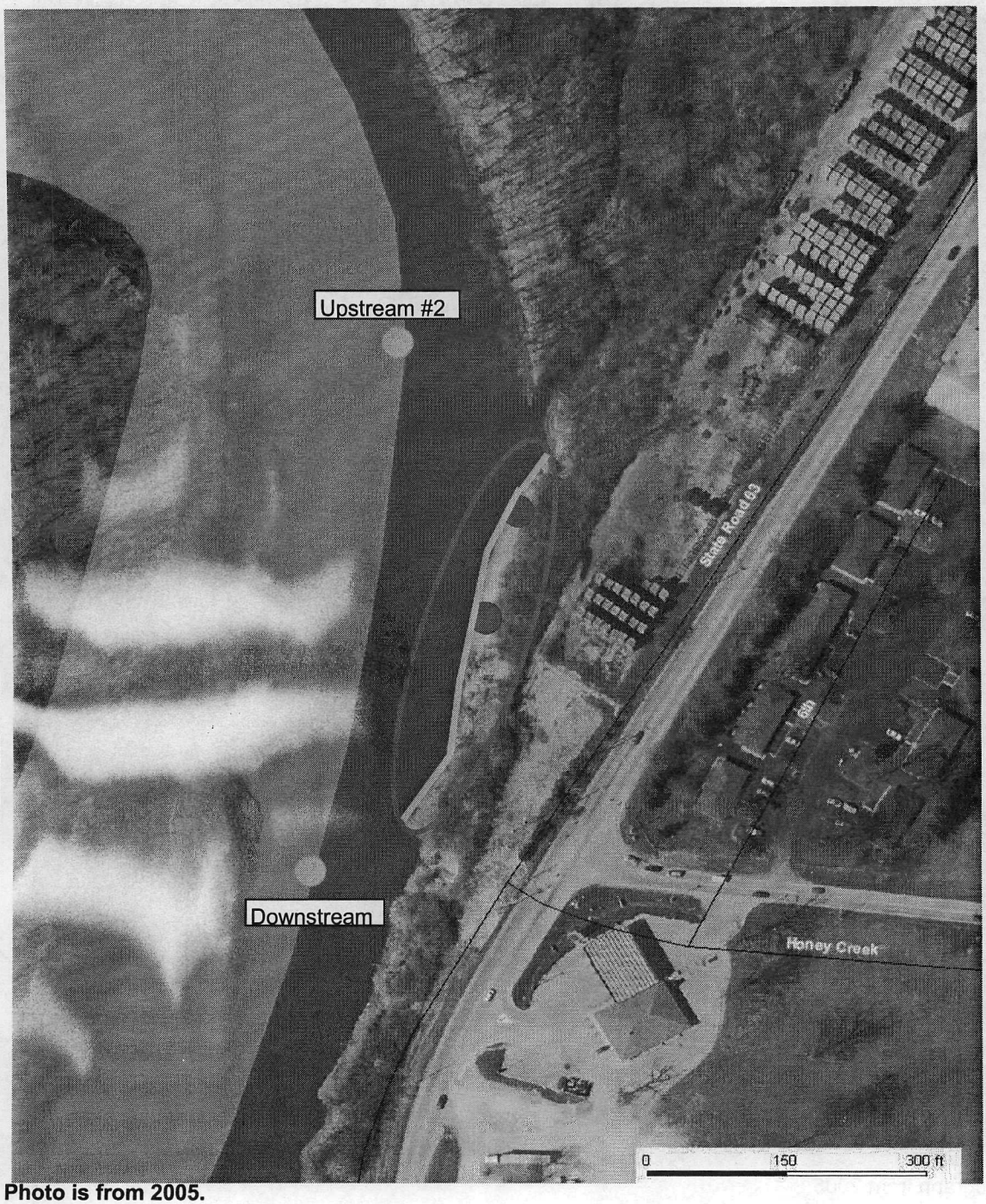


Photo is from 2005.

Area of visual impacts

Approximate Locaton of Silt Fence Planned Placement

Approximate Location of River Water Sample

Approximate Location of Soil/Material Sample

Figure 2
Site Location Map
Indicating Soil/Material Sample Locations

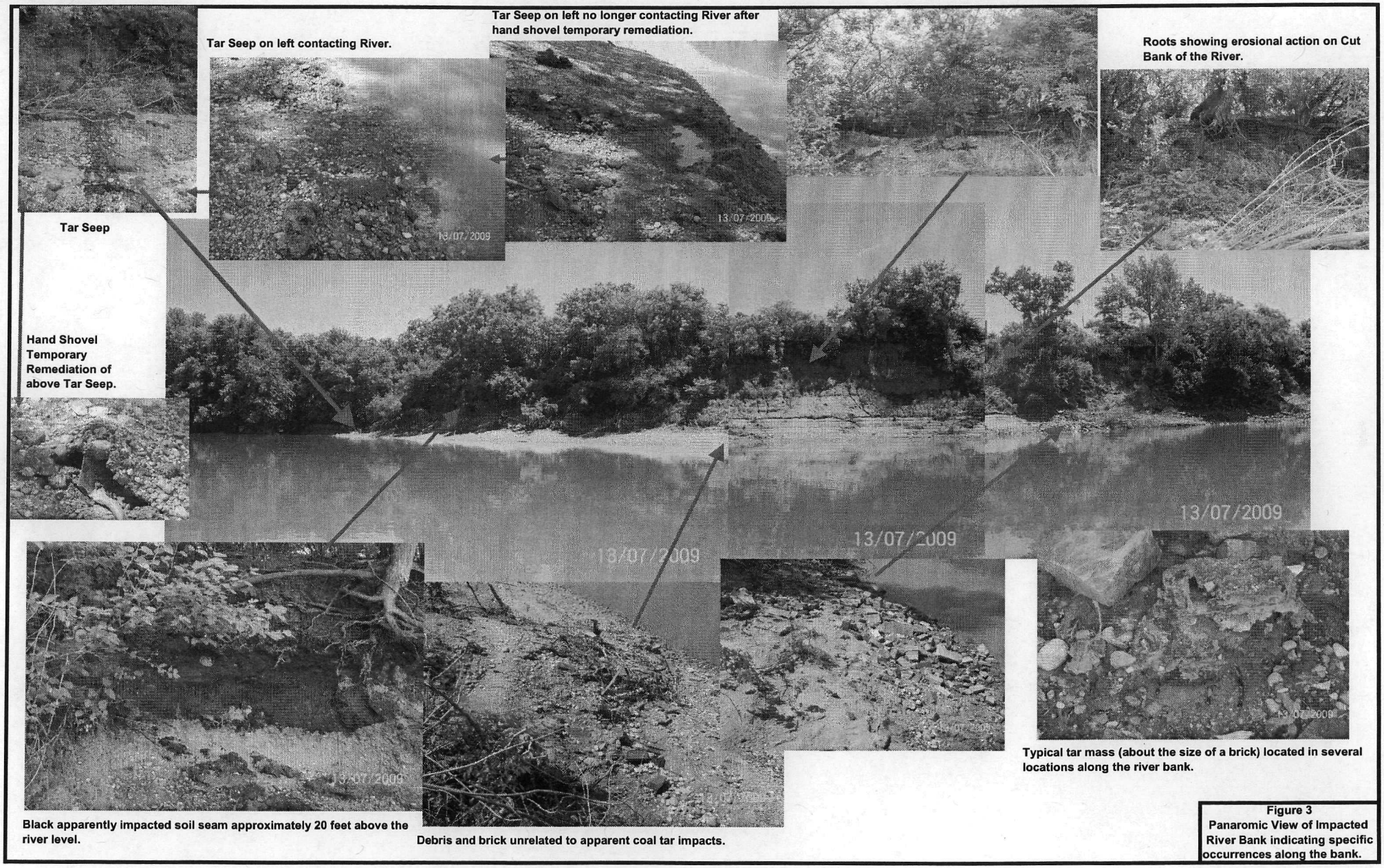


Figure 3
Panaromic View of Impacted River Bank indicating specific occurrences along the bank.

Table 1
River Water Analytical Results (ug/L)
Adjacent to the
Former Western Tar Facility
Terre Haute, Indiana

Sample No.	Date Sampled	Acenaphthene	Benzene	Benzo (a) pyrene	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	Ethylbenzene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Polychlorinated Biphenyls (PCBs)
Upstream #1	7/13/2009	<1.0	<5	<0.1	<5	<5	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<0.50
Upstream #2	7/13/2009	**1.13**	<5	<0.1	<5	<5	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<0.50
Downstream	7/13/2009	<1.0	<5	<0.1	<5	<5	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<0.50
USEPA Superfund Ecotox Threshholds -Surface Water[1] (ug/L)		23	46	0.014	130	14	38	9.4	47	290.0	8.1	3.9	24	6.3	0.19
IDEM RISC Residential Groundwater (ug/L)		460	5.0	0.12	130	600	80	75	990	1,600	1500	310	8.3	23	0.50

Notes:
Samples analyzed using EPA SW-846 Method 8260, 8270, and 8082.
NA = Not available or applicable
ug/L = micrograms per liter
(1) USEPA Office of Solid Waste and Emergency Response, Eco Update, January 1996
(2) IDEM RISC, February 10, 2001 with updates through May 1, 2009.

Table 2
Soil / Material Analytical Results (mg/Kg)
Adjacent to the
Former Western Tar Facility
Terre Haute, Indiana

Sample No.	Date Sampled	Acenaphthene	Benzene	Benzo (a) pyrene	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	Ethylbenzene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Polychlorinated Biphenyls (PCBs)
Dark Soil - South of Tar Flow	7/13/2009	<0.37	<0.006	<0.37	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.37	<0.37	<0.37	<0.34	<0.08
Soil Directly Under Tar Flow	7/13/2009	<0.35	<0.005	<0.35	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**12.7**	**0.72**	<0.35	**5.41**	<0.08
IDEM RISC[1] Residential Clean up Goals		130	0.034	0.5	13	17	2.3	2.2	5.6	13	2,000	170	0.7	13	1.8

Notes:
Samples analyzed using EPA SW-846 Method 8260, 8270, and 8082
NA = Not available or applicable
mg/kg = milligrams per kilogram
(1) IDEM RISC, February 10, 2001 with updates through May 1, 2009.